Luzula confusa

Northern woodrush

Status

Federal status: G5 N?, Not listed
NH state status: S1, Endangered
ME state status: S1, Threatened

Flora Conservanda Division 2, regionally rare taxa with fewer than 20 occurrences in New England. All New Hampshire occurrences are historic, which may indicate a population decline. Only one record documents an unsuccessful attempt to relocate the population, so whether these occurrences are truly gone is uncertain. New Hampshire Natural Heritage Inventory believes it still occurs but has not been found due to lack of adequate surveys in suitable habitat.

The expert panel estimated the range-wide and WMNF viability at outcome B to C now and in the next 20 years. Trail impact on this species and its community in the Presidentials is not that great, but it may be much greater outside of the Presidentials because alpine habitat occurs in smaller patches and more of it is impacted by trails and view-seekers. Local demes have been lost, but the overall geographic extent of the taxon has not been reduced. It is expected that recreation impacts will increase in the next 20 years, but so will public awareness, which may mitigate some impacts. If off-trail hiking prohibitions are not enforced, and specific sites are not protected, the outcome will move toward C in next 20 years.

Distribution

Circumboreal, south to high mountains of Maine and New Hampshire. Maine and New Hampshire populations are considered disjunct from the species' primary range.

All four know New Hampshire occurrences are from Sargents Purchase and identified as historic. They may not all be separate occurrences as two are very vague. One is documented as looked for and not found once; whether the others have been looked for recently is unknown. All are on the WMNF. NHNHI believes it still occurs on the Forest, but has not been found due to lack of adequate surveys in suitable habitat. The only Maine occurrence is from Mt. Katahdin.

Habitat

In New Hampshire, *Luzula confusa* is an alpine obligate that occurs in wet ravine communities.

Considered by the expert panel to be part of the snowbank/streamside/wet ravine alpine communities. These patch communities are characterized by heavy late melting snow, high moisture levels, and a relatively thick organic soil layer. Wet ravine conditions provide the moisture levels that are critical for this species. Ice and snow loading is important because it provides protection from harsh winters and fluctuations in spring temperatures. Other species in wet ravine habitats benefit from water and ice movement because it reduces competition, but it is unknown if this is true for *Luzula confusa*. In

other regions, this species is disturbance adapted, benefiting from reduced competition; in NH ice and snow movement may provide that disturbance benefit.

Limiting Factors

Hiking and late spring use are probably the most important factors affecting the snowbank/wet ravine/streamside community system, including *Luzula confusa*. The threats from winter camping faced by species in the snowbank communities probably do not affect *Luzula confusa* since it appears to be restricted to wet ravines in the WMNF.

Changes to hydrology could pose a threat to this species, but the threat from trampling and other recreational use is greater. Global warming and acid rain may be threats, but it is uncertain how much they impact alpine species, and they are less important than other threats.

Viability concern

The expert panel indicated that snowbank/wet ravine/streamside community species are very scattered; their distribution and association with others is unpredictable, making selection of focal or surrogate species for these communities inappropriate. Future outcome is expected to decline if hikers are not kept on trails and known occurrences are not protected, so species was kept on list to help ensure that sites are protected.

Management activities that might affect viability

The activity with potential to impact this species that the WMNF has some control over is trampling by hikers and other recreationists. Management that would reduce the density of trails in the alpine zone, help keep hikers on designated trails, and protect rare species from rock and ice climbing impacts would reduce the potential for trampling.

Trail construction or other development in the alpine zone could affect this species if it would directly impact wet ravine habitat, alter the hydrology of a suitable area, or increase human traffic near suitable habitat. Trail maintenance activities could alter habitat suitability or directly impact individuals.

References

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